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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,134	02/02/2004	Thomas A. Baginski	2A09.1-121	9668

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GARDNER GROFF, P.C.  
2018 POWERS FERRY ROAD  
SUITE 800  
ATLANTA, GA 30339

EXAMINER
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A, MINH D

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/770,134

Applicant(s)

BAGINSKI, THOMAS A.

Examiner

Minh D. A

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-13, 15 and 17 is/are rejected.
- 7) ☒ Claim(s) 5, 8, 9, 14 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/18/04</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4, 10-11 and 13 are rejected under 35 U.S.C. 102(b) as being unpatentable by Patel et al (US 5,216,325).

Regarding claim 1, Patel discloses a spark gap device comprising: an integrated circuit (1C), the IC comprising: a substrate (11); a cathode element(19) disposed on the substrate, the cathode element (19) comprising a conductive material; and an anode element (16) disposed on the substrate electrically isolated from the cathode element (19), the anode element (16) comprising a conductive material, the anode (16) and cathode elements (19) being separated from each other by a spark gap; a capacitor that stores an electrical charge, the electrical charge stored on the capacitor exerting an electric field over the cathode and anode elements', and a trigger electrode (12) capable of being actuated, wherein when the trigger electrode (12) is actuated, a spark occurs in the gap of the spark gap device. See figures 1-2, col.2, lines 52-68 to col.4, lines 1-41.

Regarding claims 2 and 11, Patel discloses wherein the substrate is a ceramic material. See col.2, lines 53-58.

Regarding claim 4, Patel discloses wherein the trigger electrode (12) includes an electrode electrically isolated from the cathode (19) and anode elements (16) and

substrate (11), wherein the trigger electrode (12) is actuated by creating a voltage differential between the electrode and the cathode element. See figures 1-3.

Regarding claim 10, Patel discloses an explosive apparatus comprising: a spark gap device, the spark gap device comprising: an integrated circuit (IC), the IC comprising: a substrate; a cathode element disposed on the substrate, the cathode element comprising a conductive material; and an anode element disposed on the substrate electrically isolated from the cathode element, the anode element comprising a conductive material; a capacitor capable of storing a large electrical charge; and a trigger capable of being actuated, wherein when the trigger is actuated current flows between the cathode and anode elements and generates a spark in the spark gap device; and an explosive material that is detonated when the trigger is actuated. 1-6, col.4, lines 35-68 to col.9, lines 1-26.

Regarding claim 13, Patel discloses wherein the trigger includes an electrode electrically isolated from the cathode element, anode element and substrate. See figures 1-3.

Claim 17 is rejected under 35 U.S.C. 102(b) as being unpatentable by Hartman et al (US 5,309,841).

Regarding claim 17, Hartman discloses an integrally forming a high-voltage switch on a substrate of an integrated circuit, the high-voltage switch comprising an anode element disposed on the substrate and a cathode element disposed on the substrate, the anode and cathode elements being electrically isolated from each other and separated from each other by a spark gap; integrally forming an explosive device of

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the substrate, the explosive device comprising an anode element, a cathode element and a conductive bridge element that connects the anode and cathode elements of the explosive device together; and triggering the high-voltage switch to use a spark to be created in the spark gap, wherein when the spark is created in the spark gap, current flow through the conductive bridge of the explosive device thereby causing the explosive device to detonate. See figures 1-6, col.4, lines 35-68 to col.9, lines 1-26.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Patel et al (US 5,216,325).

Regarding claims 3,12, Patel discloses the claimed invention except for a voltage differential between the cathode element and the anode element is approximately 300 volts or greater. It would have been an obvious matter of design choice to employ a voltage approximately 300 volts, since applicant has not disclosed that this 300 volts can be solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with 300 volts.

5. Claims 6-7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Patel et al (US 5,216,325) in view of Hartman et al (US 5, 309, 841)

Regarding claims 6-7, 15, Patel discloses the claimed invention except for wherein the trigger includes a transistor electrically wherein the trigger includes a transistor electrically coupled to an electrode. However, Hartman discloses the trigger includes a transistor electrically wherein the trigger includes a transistor electrically coupled to an electrode. See figures 1-5, col.4, lines 35-68 to col.8, lines 1-49.

It would have been an obvious to one of ordinary skill in the art at the time the invention was made to employ a transistor such as that suggested by Hartman in the spark gap device to apply a voltage to a gate transistor, since it provides activating an explosive

***Allowable Subject Matter***

6. Claims 5-7, 12 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not teach that, wherein the trigger electrode is electrically coupled to a secondary side of a step-up transformer, the secondary side comprising a coil that is electrically isolated from the cathode element, anode element and substrate recited in dependent claims 5 and 14.

The prior art does not teach that, a slapper device formed on the IC, the slapper device being electrically connected in series with the spark gap device, the slapper device comprising: a cathode element disposed on the substrate, the cathode element of the slapper device comprising a conductive material; an anode element disposed on the substrate electrically isolated from the cathode element of the slapper device, the

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anode element of the slapper device comprising a conductive material; a conductive bridge interconnecting the cathode element of the slapper device and the anode element of the slapper device; and a flyer element positioned to receive energy transferred from the conductive bridge of the slapper device to the flyer element, wherein when the trigger element of the spark gap device is actuated, current flows through the conductive bridge of the slapper device thereby causing energy to be transferred from the conductive bridge of the slapper device to the flyer element, the energy transferred to the flyer element imparting motion to the flyer element in a direction away from the substrate recited in dependent claims 8 and 16,

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Walters et al (US 5,895,986) and Yamashita et al. (US 6,087,776) are cited to show a lighting control system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 –2:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and (703) 872-9319 for final communications.

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Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-1553.

Examiner

Minh A

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4/2/05



**WILSON LEE**  
**PRIMARY EXAMINER**